

## ABSTRACT

A method and associated system for effectively increasing the number of antenna  
5 elements within a multi-element antenna system through computation of a response of "virtual"  
antenna elements located along an antenna array. The physical elements of the array are  
positioned sufficiently near each other to enable synthesis of a polynomial or other mathematical  
expression characterizing the response of the array to receipt of an incident waveform. Values of  
the responses associated with the virtual antenna elements of the array may then be determined  
10 through evaluation of the synthesized polynomial or other expression. The resultant array  
response values associated with the virtual and physical elements of the array are then provided  
to an associated receiver for processing.

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